Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0512**

Project **SR-FA15 / M Area Deactivation Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Definition of Scope: Deactivation of M Area will involve:

1. Removal of uranium aluminum alloy from the 321-M casting and machining area ductwork;
2. Stabilization of the 321-M contamination area by decontamination or application of a surface fixative;
3. Flush M Area process and waste transfer lines, including those in 341-M.
4. Disposal of hazardous materials and chemicals (mostly from 341-M);
5. Closure of the M Area underground process sewer;
6. Preparation and implementation of facility characterization and deactivation plans; and,
7. Preparation and implementation of a facility long term surveillance and maintenance plan.

Technical Approach: Deactivation of M Area can be accomplished with existing technology, although new technologies may reduce the cost and shorten the schedule for deactivation. The following describes the technical approach for M Area deactivation:

1. Removal of alloy from 321-M ductwork: Ductwork will be opened and decontaminated. In some cases, ductwork may be dismantled for easier access;
2. Contamination area stabilization: Standard decontamination techniques, including surface painting, will be used to prevent the spread of contamination to clean areas;
3. Flushing of lines and systems: Standard flushing techniques already in use in M Area will be utilized;
4. Disposal of hazardous materials and chemicals: Chemicals and hazardous materials will be disposed of in accordance with the appropriate regulations and Site procedures; and,
5. Process sewer closure: The M Area process sewer will be closed by sealing of entry points in various M Area facilities, and by filling one or more manholes in the system with sand and capping with concrete.
6. Deactivation of the VTF (vitrification facility) and disposal of the melter.
7. Elimination of utilities in M Area, including power, sewer, steam and water.

Project Status in FY 2006:

Site funding limitations currently preclude funding for the larger deactivation projects that would be needed to significantly reduce M Area surveillance and maintenance costs. Current funding guidance indicates that the large scale deactivation scope outlined in this PBS will begin after FY06. Until such time, M Area will be maintained at a higher level of surveillance and maintenance costs commensurate with the risk posed by the M Area facilities. This does not preclude, however, the planning and implementation of smaller scale projects encompassing a portion of the scope for this ACP project. These projects would be initiated to reduce a specific risk, thereby lowering surveillance and maintenance costs associated with that particular risk. Funding for this type of project would be incremental to the M Area surveillance and maintenance budget. As funding for these small scale projects is speculative, no consideration is given to them in this PBS.

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Project Description Narratives

Post-2006 Project Scope:

The post-FY2006 work scope is essentially the entire deactivation project work scope. Current funding guidance indicates that these deactivation activities will begin after FY2006. Deactivation is expected to be complete by FY2011. At such time, a routine of quarterly surveillances will be established. These surveillances will verify the structural integrity of M Area facilities, and verify the operational integrity of any equipment required by the surveillance and maintenance plan. This monitoring will continue until final disposition of the facilities.

Project End State

This project provides for the deactivation of M Area only. Additional projects will be required to meet the EM site end state. At this time, an end state for the facilities in M Area have not been defined. Reuse of facilities has been considered in the past. However, no plans have been made at this time to reuse M Area facilities after deactivation (post-FY2011).

No nuclear materials, spent fuel, or high level waste are stored in C Area, nor will any be generated by this project. Wastes generated by this project will be primarily job control wastes, most significantly from decontamination of the 321-M casting and machining area and removal of uranium aluminum holdup in the casting and machining area HEPA filtration system. Such wastes would be disposed of as low level waste.

Cost Baseline Comments:

Costs identified in this PBS are rough order of magnitude engineering estimates only. Some historical data for a few activities, such as HEPA Filtration system duct decontamination, was used for these estimates. Work scope identified in this PBS is based on process and facility history only, not from detailed characterization of facility hazards. Such characterization efforts will likely alter the scope and cost of this project.

Safety & Health Hazards:

As the project will not be funded until after FY2006, no safety and hazards analysis has been performed for M Area deactivation activities. Such analyses will be performed in accordance with Site standards. The criteria for determining the radiological hazard categories are provided in DOE-STD-1027-92 , and the criteria for determining the chemical hazard categorization are provided in WSRC-MS-92-206.

Safety & Health Work Performance:

Activities and check points are described by the Integrated Management System Description. The conditions and requirements are clearly established and agreed upon prior to the starting of any project and those requirements are contractually binding upon WSRC. The key elements of the WSRC Integrated Safety Program are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the Safety Management System. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, discipline site-wide approach to safety while performing work.

PBS Comments:

As of the end of FY97, a large amount of equipment has been removed from 320-M in support of an economic outreach agreement with the EFCO Corporation, a manufacturer of aluminum windows and window frames. Similar equipment will be removed from 321-M in early FY98, also destined

Project Description Narratives

for EFCO. An EFCO supplier, Trident, has a similar agreement for other pieces of M Area equipment. These agreements enabled the Barnwell, S. C., area to attract industries that could potentially provide up to 1,100 jobs.

In addition, the 311-M tank farm, which formerly supplied acids and caustics for 321-M processes, was dismantled and staged for excess sale. Removal of this tank farm will make room for proposed environmental remediation activities.

Baseline Validation Narrative:

Not applicable.

General PBS Information

Project Validated? **Date Validated:**

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/3/1999

FEDPLAN Project? Yes

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
Y	Y	N	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: S. L. Johnson

DOE Project Manager Phone Number: 803-557-3828

DOE Project Manager Fax Number: 803-557-3669

DOE Project Manager e-mail address: sandra-l.johnson@srs.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006

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PBS Baseline (current year dollars)	0	14,144	14,144					0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	10,460	10,460					0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	14,144	14,144					0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	10,460	10,460					0	0	0	0	0	0	0

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	890	3,002	4,293	2,966	2,993	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	707	2,321	3,232	2,174	2,026	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	890	3,002	4,293	2,966	2,993	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	707	2,321	3,232	2,174	2,026	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
			3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

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Project **SR-FA15 / M Area Deactivation Project**

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/1/2011

Current Projected End Date of Project: 9/1/2011

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	10,186	**Actual 1997 Cost:**		**Actual 1998 Cost:**	
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	10,186	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			275
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	10,461				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	10,461	
Additional Amount to Reconcile (+):	-1	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**10,460**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Mission Complete	SR-FA15-005		9/1/2011								

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Project **SR-FA15 / M Area Deactivation Project**

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Start	SR-FA15-001		10/1/2007								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Mission Complete	SR-FA15-005				Y						
Project Start	SR-FA15-001			Y							

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 200
Fac.														
Deact. During Per.	NF	2.00	9.00	11.00							2.00			
Tech.														
Deployed	Ntd	0.00	16.00	16.00										

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
Fac.													
Deact. During Per.	NF								9.00				
Tech.													
Deployed	Ntd					16.00							

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total

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Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
Fac.										
Deact. During Per.	NF								2.00	13.00
Tech.										
Deployed	Ntd									16.00

Technology Needs

Site Need Code: SR99-4002

Site Need Name: Characterization of Contaminated Surfaces

Focus Area Work Package ID: DD-03

Focus Area Work Package: Canyon Disposition Initiative

Focus Area: DDFA

Agree with Technology Link: N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Rapid Surface Sampling and Archive Record (RSSAR) System		
Rapid Surface Sampling and Archive Record (RSSAR) System		
Rapid Surface Sampling and Archive Record (RSSAR) System		
Rapid Surface Sampling and Archive Record (RSSAR) System		
Portable X-Ray, K-Edge Heavy Metal Detector		
Portable X-Ray, K-Edge Heavy Metal Detector		
Portable X-Ray, K-Edge Heavy Metal Detector		
Portable X-Ray, K-Edge Heavy Metal Detector		
Portable X-Ray Fluorescence Spectrometer		
Portable X-Ray Fluorescence Spectrometer		
Portable X-Ray Fluorescence Spectrometer		

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Technology Needs

Portable X-Ray Fluorescence Spectrometer
Gamma Ray Imaging System
Gamma Ray Imaging System
Gamma Ray Imaging System
Gamma Ray Imaging System
Mobile Automated Characterization System
Mobile Automated Characterization System
Mobile Automated Characterization System
Mobile Automated Characterization System
Gamma Cam (TM) Radiation Imaging System
Gamma Cam (TM) Radiation Imaging System
Gamma Cam (TM) Radiation Imaging System
Gamma Cam (TM) Radiation Imaging System
Field Transportable Beta Spectrometer
Field Transportable Beta Spectrometer
Field Transportable Beta Spectrometer
Field Transportable Beta Spectrometer
Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)
Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)
Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)
Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)
Indoor Radiation Mapping Using Laser Assisted Ranging and Data System
Indoor Radiation Mapping Using Laser Assisted Ranging and Data System
Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

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Technology Needs

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

Ground Based Laser Induced Fluorescence Imaging

Ground Based Laser Induced Fluorescence Imaging

Ground Based Laser Induced Fluorescence Imaging

Ground Based Laser Induced Fluorescence Imaging

In Situ Object Counting System

In Situ Object Counting System

In Situ Object Counting System

In Situ Object Counting System

Technology Deployments

		Deployment Year		
Deployment Status		**Planned**	**Forecast**	**Actual Date**
Technology Name:	Laser Surface Cleaning			
Potential Deployment		2008		
Technology Name:	Small Pipe Characterization System (SPCS)			
Potential Deployment		2008		
Technology Name:	In Situ Chemical Treatment of Asbestos			
Potential Deployment		2008		
Technology Name:	Airborne Laser Induced Fluorescence Imaging			
Potential Deployment		2008		

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Technology Deployments

		Deployment Year		
Deployment Status		**Planned**	**Forecast**	**Actual Date**
Technology Name:	Three Dimensional, Integrated Characterization and Archiving System (3D-ICAS)			
Potential Deployment		2008		
Technology Name:	Portable X-Ray, K-Edge Heavy Metal Detector			
Potential Deployment		2008		
Technology Name:	Thermal Conversion of Asbestos			
Potential Deployment		2008		
Technology Name:	Removal of Contaminants from Equipment and Debris, and Waste Minimization Using TECHXTRACT			
Potential Deployment		2008		
Technology Name:	Portable X-Ray Fluorescence Spectrometer			
Potential Deployment		2008		
Technology Name:	Mobile Automated Characterization System			
Potential Deployment		2008		
Technology Name:	Pipe Crawler Internal Piping Characterization System			
Potential Deployment		2008		
Technology Name:	Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)			
Potential Deployment		2008		
Technology Name:	ROTO PEEN Scaler and VAC PAC System			
Potential Deployment		2008		

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Technology Deployments

		Deployment Year		
Deployment Status		**Planned**	**Forecast**	**Actual Date**
Technology Name:	Pegasus Coating Removal			
Potential Deployment		2008		
Technology Name:	Indoor Radiation Mapping Using Laser Assisted Ranging and Data System			
Potential Deployment		2008		
Technology Name:	Ground Based Laser Induced Fluorescence Imaging			
Potential Deployment		2008		